PROPOSED **– DECISION NOTICE –** PROPOSED

INVASIVE SPECIES MANAGEMENT

USDA Forest Service
Shawnee National Forest
Alexander, Gallatin, Hardin, Jackson, Johnson, Massac, Pope, Saline and Union Counties, Illinois

Background

Invasive species problem: Monitoring and field studies document that the Forest has numerous and abundant populations of invasive plant species that pose an increasingly serious threat to plant and animal community health and diversity (EA pages 6-8). Invasive plant species, non-native and displaced from their original ranges, generally lack natural controls like disease, predators, parasites, or climate. They tend to out-compete and eventually replace native species. They can cause the loss of habitat and food for wildlife, alter soil structure and chemistry, modify fire regimes, alter plant succession, hybridize with natives to compromise local genetic diversity, and replace and possibly lead to the local extirpation of native plant species, including threatened, endangered and sensitive species.

Our long-time use of integrated pest-management principles for the prevention/eradication/control of invasive species has fallen short, lacking certain tools available for responsible control. Integrated pest management recognizes an "action threshold," the point at which it is clear that the methods being used to control pests, or invasives, are not adequate. When we see many areas of the Forest infested and overcome by invasives and recognize the potential loss of biodiversity caused by their establishment, we know that the action threshold has been crossed. It is at this point we must consider other methods, including herbicide-use, to manage invasive species on the Forest.

Designated natural areas: Since 1980, we have cooperated with the State of Illinois Nature Preserves Commission in protecting the last remnants of Illinois' natural heritage. The initial Illinois Natural Areas Inventory in 1978 identified 1,089 of the state's rarest remaining areas, 85 of which are in the Forest. Recognizing the value of the unique features of these areas, the Forest designated 80 of the sites as "natural areas" in the first Forest Plan (1986). Today we protect these areas under the Natural Area Management Prescription (2006 Forest Plan, page 76), which requires the protection and perpetuation of their significant and exceptional features. These features are generally ecological, with unique plant and/or animal communities and habitats. However, for many reasons, most natural areas have not been actively managed in ten years or more, leading to the general degradation of their communities. Invasive plant species are encroaching on them; many limestone and sandstone barrens are reverting to forested conditions. This degradation is confirmed by field surveys and reports by the Illinois Department of Natural Resources (IDNR) that emphasize these areas require active management to maintain their integrity.

Decision

This discussion of my decision incorporates by reference the Invasive Species Management Environmental Assessment (EA) Revision 2 of September 2013. Based upon my review of the Invasive Species Management EA, I have decided to implement Alternative 2, which proposes the treatment of invasive plants using an integrated combination of prescribed fire and manual, mechanical and/or chemical control methods. Under this alternative, we would continue to use public information and education to increase awareness of invasive species issues. We would treat invasive plants on National Forest System lands specified in the EA and mapped in the project record, given available time and resources. Post-treatment monitoring would be

done to evaluate success, which we would document in our monitoring reports. The selected alternative provides a dual approach to invasive plant species management:

1. Treatment Forest-wide of all known sites with four highly invasive species: The project interdisciplinary team reviewed the many invasive species on the Forest and identified four as priorities to be targeted: Amur honeysuckle *(Lonicera maackii*), present on 411 acres at 20 sites, 37 acres of which are divided among 7 sites in natural area treatment zones; Chinese yam *(Dioscorea oppositifolia*), present on 253 acres at 22 sites, 1½ acres of which is distributed throughout 7 sites in natural area treatment zones; garlic mustard (*Alliaria petiolata*), present on 467 acres at 31 locations, 13 acres of which are divided among 6 sites in natural area treatment zones; Kudzu (*Pueraria montana*), present on 77 acres at 9 locations, 10 acres of which are located at 1 site in a natural area treatment zone (see Project Record for maps of locations)

For the most part, these species were chosen because of their high degree of invasiveness and/or ability to suppress or extirpate native vegetation by their aggressive growth characteristics or allelopathic abilities. Published science, monitoring, and field study indicate that active management of these species can greatly reduce both their current and potential adverse effects on native plants and animals with minimal impact on the surrounding environment. We would take an integrated treatment approach, using manual, mechanical and, where appropriate, herbicide treatments to control and eliminate the four highly invasive species from the sites where they occur.

2. Management of 23 designated natural areas and their treatment zones: The interdisciplinary team reviewed the information on invasive species in natural areas and identified those most threatened with vigorous infestations or with the most vulnerable natural communities. Based on these factors, the team selected 23 high-priority natural areas for this analysis (see EA Table 1). To enable maximum protection of the selected areas, the team configured treatment zones along streams, roads and trails—the main pathways of invasive species infestation—adjacent to and generally upstream of the natural areas. As detailed in EA Table 4 and Appendix A, we would treat all invasive species in the natural area treatment zones, following the published guidance of the Illinois Nature Preserves Commission.

Management would include the application of prescribed fire on 12, 400 acres in and around the natural area treatment zones. We would burn the natural area treatment zones at intervals of 1-3 years, depending on our monitoring and assessment of effects to determine the need for additional fire, as well as fuel availability. The fire would help restore native vegetation and set back the progression of invasive species. We would do further burns as needed to maintain the areas' ecological integrity once invasive vegetation has been suppressed.

We could apply herbicides to control invasive species in the natural area treatment zones either before or after the application of fire, depending on species present (see EA Table 4 and Appendix A). We would apply herbicides as described in the EA until infestations are controlled or eliminated.

Decision Rationale

The purpose of this project is to restore and protect native ecosystems on the Forest by utilizing all available, environmentally responsible tools for the control or elimination of populations of invasive plants at specified locations. Action is needed at this time because:

- invasive species are jeopardizing the survival of some ecological communities,
- invasive species are increasingly degrading native plant communities,
- established invasives populations are serving as a source for spreading infestations,
- taking action now can avert a more widespread and costly future problem,
- existing invasive species populations can spread to adjacent lands,

- past control efforts in small areas using mainly manual methods have been laborious and only marginally effective in preventing the establishment of invasive species populations,
- invasive species populations are persisting and continuing to spread, pointing to the need for a comprehensive and integrated approach to treatment, and
- prevention of the establishment of new infestations is more effective than trying to control and eradicate entrenched infestations.
- past control efforts in small areas using mostly manual methods have been only marginally effective in stopping the establishment/spread of invasive species populations,
- invasive species populations persist and continue to spread, pointing to the need for a comprehensive and integrated approach to treatment, and
- prevention of the establishment of new infestations is more effective than trying to control and eradicate entrenched infestations.

The selected alternative, Alternative 2 in the EA, will allow us to comprehensively treat invasives infestations with prescribed fire and manual, mechanical and/or chemical methods, allowing us to integrate use of the proposed herbicides as necessary to effectively and economically treat invasive plant species. The severity of the invasives problem affecting our natural areas and the need to address infestations of the four priority species identified in the EA indicate the necessity of our turning to herbicides to aid in the control of invasive species.

The design, analysis and implementation of this project occur in the context of a multiple-use framework described in the Forest Plan. In addition to planning for resource protection, we considered the interests of all types of Forest users during project analysis. We developed the selected alternative to address the threat posed by invasive plants, and incorporated numerous safeguards in order to avoid adverse effects.

Our responsibility to provide for multiple uses of forest resources, while at the same time ensuring resource conservation, presents a management challenge. In order to meet our responsibility, we have collaborated with resource experts from other agencies and organizations to learn about the successes and difficulties of invasive plant management from others who are performing activities similar to what we have proposed. In developing alternatives, we have had to balance diverse interests and consider the insights of those who have already made significant progress in reducing the adverse effects of invasive plants, especially with regard to natural areas.

This project enjoys a broad range of support, including the endorsement of state agencies, local partnerships and well-established national environmental organizations. Among the statements of support and endorsement:

> ***The Illinois Department of Natural Resources:***
> (We) have reviewed all of the changes made to the Invasive Species EA Revision 2 and continue to be supportive of the actions proposed, including re-introduction of prescribed fire… as a management tool and actions regarding invasive species control. The adjustments to the EA based upon the new risk assessment for glyphosate are reasonable and appropriate measures to ensure safe and effective treatments of invasive plants on the Forest.
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> As stated in previous comments, the approach proposed by the Forest in the EA is based upon sound science and management principles, and the equipment sanitation and spread prevention techniques detailed within the EA are a vital component of an effective management program. A combination of mechanical and chemical treatments is often necessary for control, as many of the invasive species present in southern Illinois cannot be adequately controlled using mechanical means alone.

Invasive species are a direct threat to natural resources, native communities, and ecosystem health and functioning. They also severely impact recreation and have the ability to readily move off the Forest onto adjacent lands. Effective control on the Forest is vital to conservation efforts in southern Illinois and will directly benefit adjacent state and private lands. It is imperative to protect the Forest and to maintain the health of adjacent lands, that invasive species be controlled.

The IDNR agrees with the emphasis the Forest places on natural area management with this EA. The management strategies and expected outcomes outlined in this EA are common to those outlined in our State's Wildlife Action Plan specifically for those noted in our Invasive Species and Forest Campaigns. Controlling invasive species within natural areas on the Forest will help protect these remnants of high-quality native communities that are home to many rare, threatened, or endangered species.

…the IDNR fully supports the Forest's efforts to control invasive plants and believes that the actions proposed in the Invasive Species EA Revision 2 are appropriate and necessary.

The Illinois Nature Preserves Commission:
(We have) been managing natural areas using the same techniques as proposed for 25 years and found them successful in protecting natural areas with sensitive plant species in Illinois.

The Midwest Invasive Plant Network:
(We applaud) the Shawnee National Forest for being willing to take decisive action and encourages the Forest to carry out the proposed measures to control invasive species on their lands…The actions proposed in the EA are the appropriate and safe measures needed to tackle the serious problem of invasive species. The other alternatives in the EA are not sufficient to prevent the continued spread of invasive species and subsequent degradation of the natural ecosystems which they invade…The USDA Forest Service is called upon to control invasive species on their lands within their mission statement ('to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations') and through the directive set forth in Executive Order 13112.

The Southern Chapter of the Illinois Native Plant Society:
(We support) the actions proposed in this EA and thank the Shawnee National Forest for continuing to prioritize, protect, and manage their natural areas and native plants…Managing natural areas and controlling invasive species not only benefits the Shawnee National Forest, but benefits the entire southern Illinois region as well. The proposed actions in the EA are needed to achieve these benefits. These methods are well-tested, not excessive, and would not pose a threat to the local environment.

The Nature Conservancy:
(We fully support) the Forest's proposal…The Nature Conservancy considers invasive exotic species to be second only to habitat loss as the leading threat to imperiled and endangered plants and animals in the United States and around the world. In partnership with the IDNR, the Conservancy employs an invasive species strike team to manage critical natural areas in…southern Illinois…It is our experience that using herbicides is the most responsible and appropriate approach for eradication of initial infestations of invasive species and using prescribed fire and herbicides in combination is the most cost-efficient and appropriate approach for long-term control of infestations…

Other Alternatives
I find that the No-Action Alternative is neither feasible nor practical, given the documented expansion of invasives. A risk of accelerated expansion of invasives under this alternative is neither speculative nor unforeseeable, as the number, location and size of invasive species-infested areas increases annually. There is significant risk of establishment in natural areas and expansion into new areas. Overall, our taking no action increases the risk to the environment, as is documented in the EA and the Project Record.

Alternative 3 would allow us to treat invasives infestations with prescribed fire and manual and mechanical methods, as well as natural weed-killers. We found that the neither of the proposed "natural" methods—hot foam and clove oil-vinegar—would actually control or eliminate a targeted plant, without repeated applications. Top-kill of a plant could be readily achieved, but the plant would not be prevented from resprouting. Without effective control, we would gain little in protecting the selected natural areas or eliminating the occurrences of the four priority species.

Other Factors Considered

In reaching my decision, I have considered the science, field data and analysis in the EA, which was tiered to the 2006 programmatic final environmental impact statement on the Forest Plan and incorporated by reference the U.S. Fish and Wildlife Service's programmatic biological opinion of the Plan. The analysis also incorporated by reference the human health and ecological risk assessments of the herbicides we propose, which indicate their relative safety. I also considered the experience, approach and support of the IDNR, as well as the Illinois Nature Preserves Commission, the Illinois Invasive Plant Species Council, the River-to-River Cooperative Weed Management Area and The Nature Conservancy, who have successfully used the methods we propose and who endorse our proposal as necessary and practical for the control of invasive species (see Forest Plan page 22).

The Invasive Species Management EA revision 2 documents the environmental analysis and conclusions upon which this decision is based.

Public Involvement

As described in the Background, the need for this action has been identified over the last few years. A proposal to manage invasive species was listed in the Forest's Schedule of Proposed Actions on April 1, 2008 and has appeared in the schedule since then. The proposal was sent to the public and other agencies for scoping on April 29, 2008. The Forest hosted an informational open-house meeting on September 15, 2010. We received twelve scoping responses.

The EA was published in 2011, with a decision in May. We received comments from 35 individuals and governmental and non-governmental organizations, as well as three form letters. The responsible official withdrew his decision after reviewing two appeals. A revised EA was published in late 2012, with a decision in January, 2013. We received comments from two individuals as well as form letters, and endorsements of the proposal from several governmental and non-governmental organizations. The responsible official withdrew his decision on appeal, in order that the interdisciplinary team could review newly published risk assessments on glyphosate and picloram. The EA was revised and published in mid-2013. Endorsements of the proposal were again received, as well as comments from three individuals and one organization. The EA lists agencies and individuals consulted on page 61.

All comments we received were carefully considered. We improved our analysis because of some; we provided thoughtful responses to others. All were weighed in the development and preparation of the EA.

Findings Required by Other Laws and Regulations

My decision is in accordance with the Forest Plan's long-term goals and objectives and the proposed project is consistent with Plan standards and guidelines (16 USC 1604(i)). The foundation of this analysis is the compilation and review of published science concerning treatment of invasive plant species. In addition, we contacted other national forests as well as state and non-governmental experts to discuss invasive plant species management. No scientific information presented to the agency by the public was overlooked or ignored. The best available science was used in the development of this analysis.

The analysis and implementation of the selected alternative meet the requirements of the National Environmental Policy Act, the National Forest Management Act, the Endangered Species Act, the Clean Water Act, the Clean Air Act, the National Historic Preservation Act, the Migratory Bird Treaty Act, the Wilderness Act and the Illinois Wilderness Act and other applicable laws and regulations, executive orders, and Forest Service directives and policies.

I considered and prepared a Finding of No Significant Impact, I determined that the effects of implementing our proposed action would not have a significant effect on the quality of the human environment, and an environmental impact statement will not be prepared.

Opportunity for Objection

This proposed decision is subject to objection pursuant to 36 CFR 218, Subparts A and B. Objections will only be accepted from those who submitted project-specific written comments during scoping or other designated comment periods. Issues raised in objections must be based on previously submitted comments unless based on new information arising after the designated comment period(s).

Objections must be submitted within 45 days following the publication of the legal notice of this proposed decision in the *Southern Illinoisan.* The date of this legal notice is the exclusive means for calculating the time to file an objection. Those wishing to object should not rely upon dates or timeframes provided by any other source. It is the objector's responsibility to ensure evidence of timely receipt (36 CFR 218.9).

Objections may be submitted by mail to:

USDA Forest Service
Suite 700, PAL/LSC Staff
626 E. Wisconsin Ave.
Milwaukee, WI 53202

Appeals may be submitted by electronic mail in a format such as plain text (.txt), rich text (.rtf), or Word (.doc) to: objections-eastern-shawnee@fs.fed.us, subject: Shawnee Invasives. Objections may be sent by fax to: (414) 944-3963, Attn: Objection Officer, subject: Shawnee Invasives. Normal business hours for those submitting hand-delivered appeals are 7:30 am-4:00 pm CST, Monday through Friday.

Objections must include (36 CFR 218.8(d)): 1) name, address and telephone; 2) signature or other verification of authorship; 3) identify a single lead objector when applicable; 4) project name, Responsible Official name and title, and name of affected National Forest(s) and/or Ranger District(s); 5) reasons for, and suggested remedies to resolve, your objections; and, 6) description of the connection between your objections and your prior comments. Incorporation of documents is not allowed except as provided for at 36 CFR 218.8(b).

Contact

For additional information concerning this decision or the Forest Service pre-decisional objection process, contact Richard Blume-Weaver, Planning and Resources Staff Officer, Shawnee National Forest, 50 Highway 145 South, Harrisburg, Illinois; phone (618) 253-1018; email rblume-weaver@fs.fed.us.

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TIMOTHY POHLMAN Date
Forest District Ranger
Shawnee National Forest